

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P522218

Luminaire Tested: **CTN-CA8-330-722-U-T5R-HSS-HM-EX90**

Issue Date: 5/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P522218  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-894-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: CTN-CA8-330-722-U-T5R-HSS-HM-EX90  
Description: CELESTEON HIGH MAST LUMINAIRE  
Light Source: (8) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 33779 lumens  
Efficiency: N/A  
Efficacy: 101.9 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B5 - U1 - G5

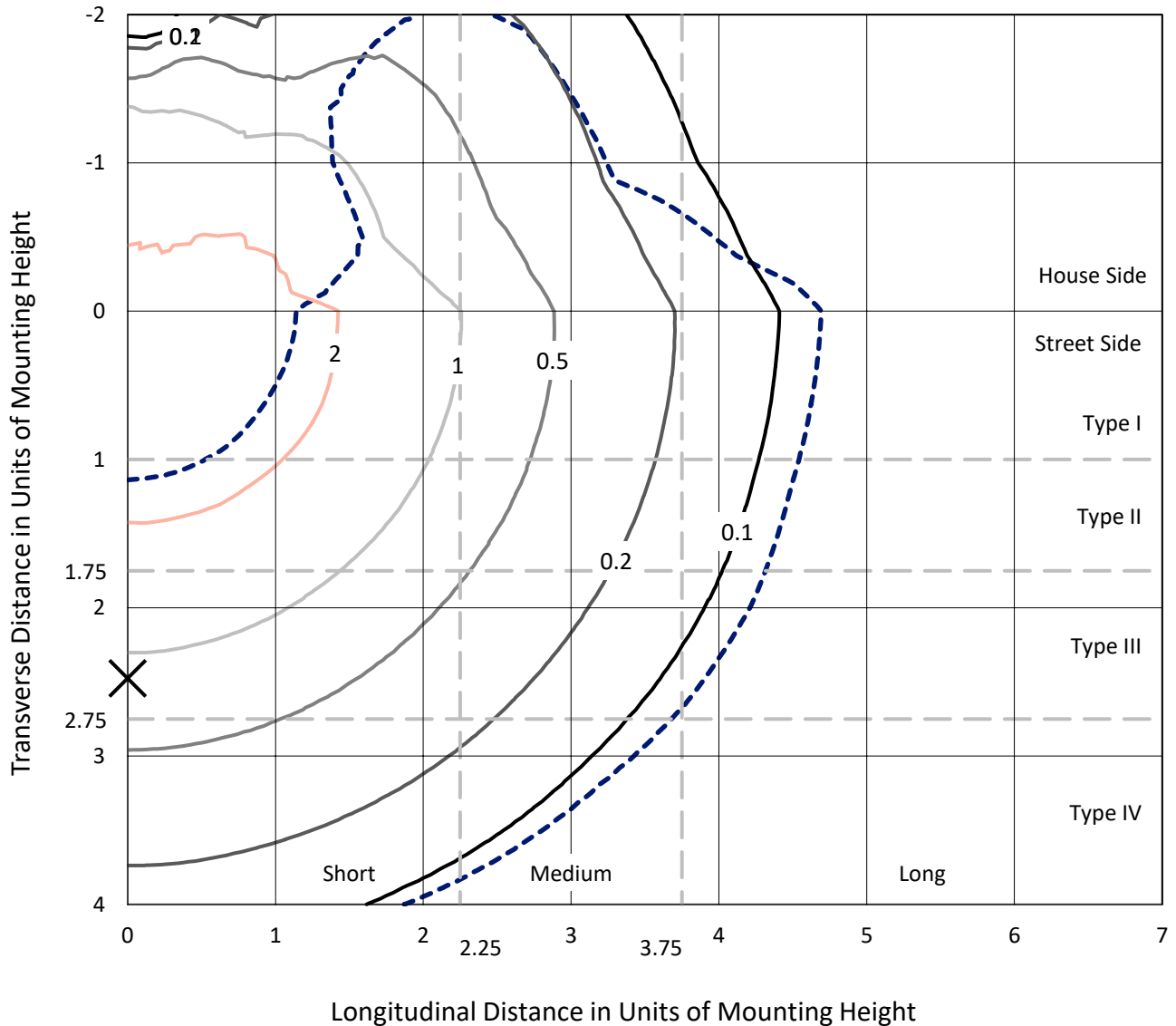
Input Watts (W): 331.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

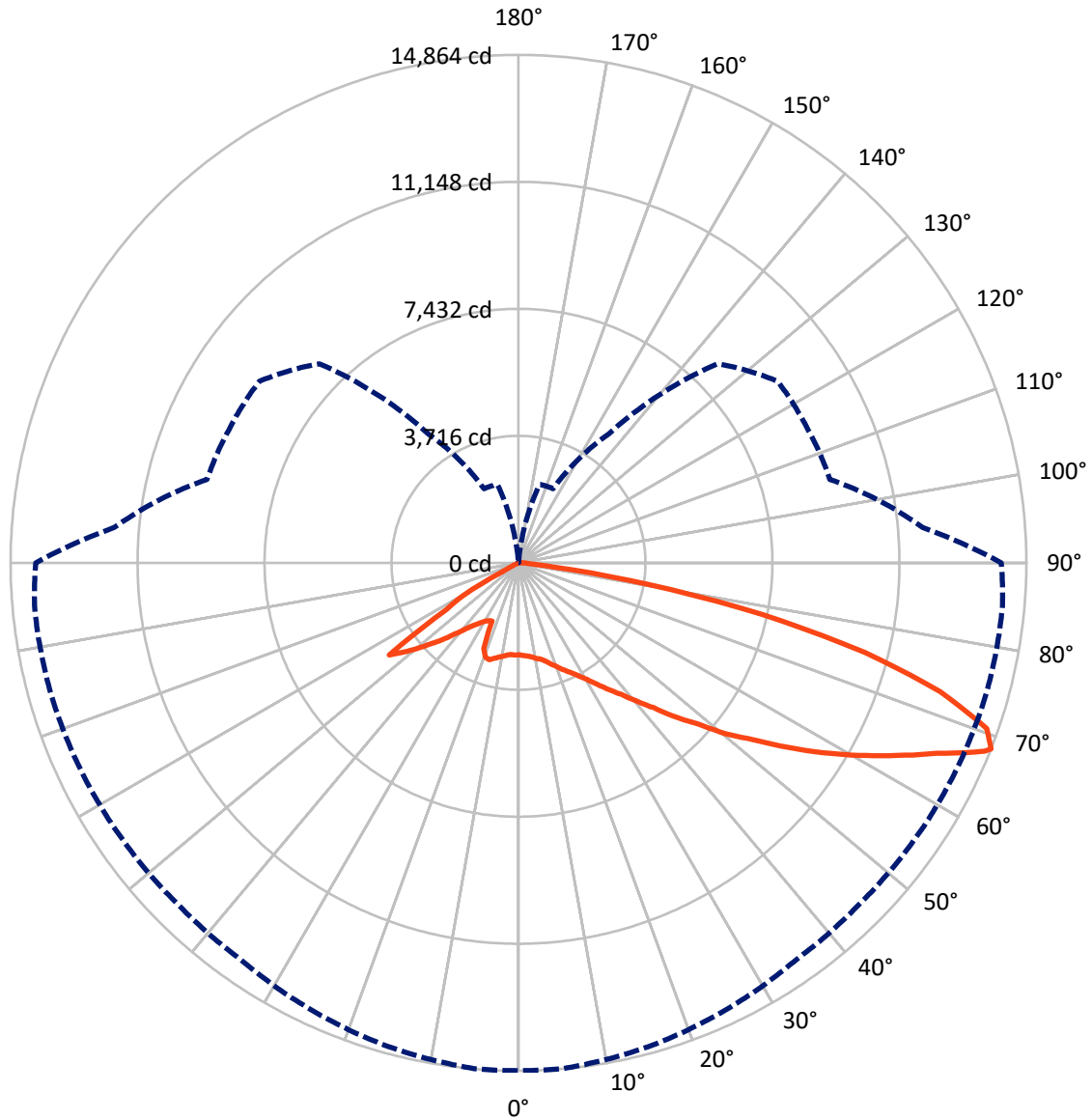
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 3 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical

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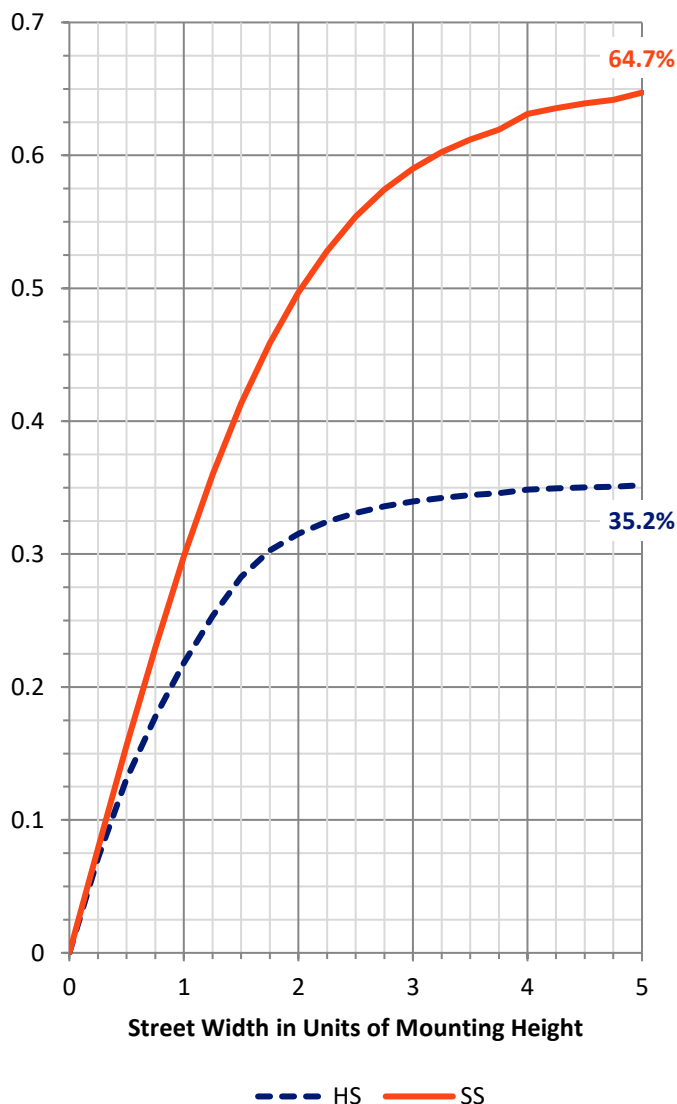
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	11887.9	2.1	11890.0
	% Fixture	35.2	0.0	35.2
<b>Street Side</b>	Lumens	21880.1	8.9	21889.1
	% Fixture	64.8	0.0	64.8
<b>Total</b>	Lumens	33768.0	11.0	33779.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	260.1	0.8
10°-20°	833.2	2.5
20°-30°	1487.5	4.4
30°-40°	2419.8	7.2
40°-50°	4132.3	12.2
50°-60°	6895.0	20.4
60°-70°	9592.3	28.4
70°-80°	7435.5	22.0
80°-90°	712.5	2.1
90°-100°	8.6	0.0
100°-110°	0.7	0.0
110°-120°	0.4	0.0
120°-130°	0.3	0.0
130°-140°	0.3	0.0
140°-150°	0.3	0.0
150°-160°	0.2	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-90°	33768.0	100.0
0°-180°	33779.0	100.0

**Coefficient of Utilization**



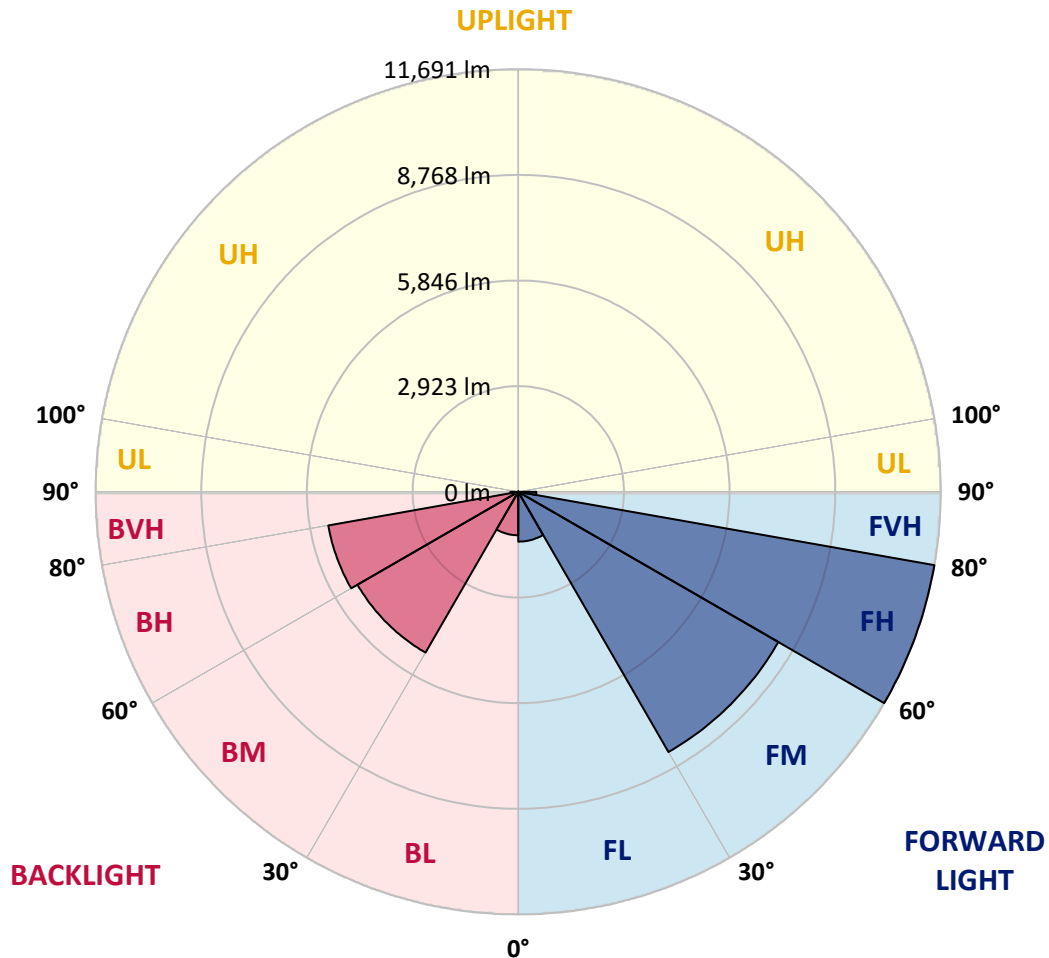
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1378.7	4.1			
FM (30°-60°)	8312.0	24.6			
FH (60°-80°)	11691.0	34.6			G4/12000
FVH (80°-90°)	498.5	1.5			G3/500
BL (0°-30°)	1202.1	3.6	B3/2500		
BM (30°-60°)	5135.0	15.2	B4/8500		
BH (60°-80°)	5336.7	15.8	B5		G5
BVH (80°-90°)	214.0	0.6			G2/225
UL (90°-100°)	8.6	0.0		U1/10	
UH (100°-180°)	2.4	0.0		U1/10	

**BUG Rating: B5-U1-G5**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2
2.5°	2718.7	2714.9	2712.4	2728.9	2681.9	2700.9	2688.2	2704.8	2700.9	2708.6	2709.8
5°	2737.8	2731.5	2722.6	2740.4	2712.4	2725.1	2711.1	2718.7	2694.6	2714.9	2717.5
7.5°	2781.0	2763.2	2762.0	2767.0	2748.0	2756.9	2732.7	2741.6	2728.9	2721.3	2728.9
10°	2845.8	2830.6	2814.1	2824.2	2792.5	2803.9	2778.5	2786.1	2779.8	2763.2	2778.5
12.5°	2890.3	2895.4	2884.0	2891.6	2863.6	2853.5	2844.6	2843.3	2839.5	2815.3	2811.5
15°	2989.5	2992.0	2971.7	2976.8	2970.4	2965.3	2952.6	2942.4	2922.1	2906.9	2896.7
17.5°	3119.1	3105.1	3086.1	3091.2	3109.0	3086.1	3078.4	3059.4	3030.1	3004.7	2999.6
20°	3255.1	3246.2	3228.4	3238.6	3237.3	3222.1	3225.9	3194.1	3152.2	3130.6	3114.0
22.5°	3406.4	3393.7	3381.0	3400.0	3384.8	3374.6	3370.8	3349.2	3297.1	3272.9	3269.1
25°	3557.6	3551.3	3560.2	3553.8	3532.2	3524.6	3529.7	3522.0	3461.0	3431.8	3414.0
27.5°	3747.0	3731.8	3745.7	3738.1	3715.2	3716.5	3717.8	3719.0	3650.4	3612.3	3586.9
30°	3963.1	3958.0	3975.8	3951.6	3930.0	3944.0	3955.5	3930.0	3870.3	3814.4	3805.5
32.5°	4244.0	4212.2	4232.5	4202.0	4169.0	4202.0	4222.4	4171.5	4123.2	4052.1	4064.8
35°	4555.4	4545.2	4545.2	4505.8	4488.0	4540.1	4560.5	4510.9	4435.9	4373.6	4358.4
37.5°	4885.9	4896.0	4927.8	4911.3	4894.8	4926.5	4972.3	4906.2	4809.6	4743.5	4725.7
40°	5324.4	5349.8	5371.4	5349.8	5330.7	5351.1	5403.2	5316.7	5249.4	5213.8	5175.7
42.5°	5795.9	5839.1	5825.2	5827.7	5844.2	5873.5	5925.6	5846.8	5769.2	5768.0	5712.0
45°	6434.0	6434.0	6404.7	6432.7	6430.2	6502.6	6525.5	6482.3	6417.5	6398.4	6350.1
47.5°	7030.1	7092.4	7080.9	7121.6	7089.8	7150.8	7228.4	7191.5	7116.5	7049.2	7039.0
50°	7861.4	7846.1	7830.8	7891.9	7886.8	7928.7	7999.9	7977.0	7872.8	7796.5	7782.5
52.5°	8592.2	8672.3	8653.2	8744.7	8693.9	8753.6	8838.8	8835.0	8707.9	8632.9	8611.3
55°	9515.0	9568.4	9564.5	9658.6	9588.7	9667.5	9738.7	9746.3	9607.8	9501.0	9534.0
57.5°	10475.9	10520.4	10494.9	10572.5	10503.8	10611.9	10655.1	10627.1	10545.8	10411.0	10460.6
60°	11438.0	11476.2	11505.4	11511.8	11472.4	11535.9	11576.6	11600.7	11472.4	11318.6	11378.3
62.5°	12415.5	12458.7	12433.3	12443.4	12334.1	12420.6	12471.4	12477.8	12330.3	12194.3	12236.3
65°	13445.0	13504.7	13413.2	13352.2	13217.5	13216.2	13283.6	13295.0	13190.8	13094.2	13077.7
67.5°	14719.9	14746.6	14550.8	14346.2	14118.7	14069.1	14116.1	14142.8	14202.5	14200.0	14125.0
68°	14863.5	14858.4	14660.1	14416.1	14172.0	14114.8	14137.7	14172.0	14211.4	14219.1	14128.8
70°	14536.8	14474.5	14361.4	14053.8	13812.3	13662.4	13582.3	13645.8	13539.1	13540.3	13371.3
72.5°	12912.4	12904.8	12696.4	12543.8	12329.0	12079.9	11965.5	11964.3	11974.4	11900.7	11726.6
75°	10459.3	10469.5	10226.7	10121.3	10055.2	10008.1	10032.3	10107.3	10114.9	10113.6	10052.6
77.5°	7294.5	7336.4	7271.6	7100.0	7284.3	7441.9	7745.7	7900.8	7851.2	7999.9	8094.0
80°	3823.3	3907.2	3909.7	4030.5	4179.2	4322.8	4584.6	4819.8	4646.9	4570.6	4491.8
82.5°	1005.4	1035.9	1081.7	1011.7	1033.4	1055.0	1258.3	1239.3	1143.9	1194.8	1271.0
85°	287.3	296.2	283.4	256.7	235.1	216.1	221.2	186.8	162.7	161.4	156.3
87.5°	202.1	217.3	191.9	165.2	148.7	138.5	133.5	113.1	91.5	80.1	63.6
90°	94.1	92.8	80.1	62.3	54.7	52.1	52.1	40.7	22.9	14.0	12.7
92.5°	39.4	40.7	33.0	26.7	22.9	17.8	14.0	8.9	5.1	2.5	1.3
95°	14.0	15.3	12.7	10.2	8.9	7.6	6.4	5.1	2.5	1.3	1.3
97.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	2.5	2.5	1.3	1.3
100°	0.0	0.0	0.0	1.3	2.5	2.5	2.5	2.5	1.3	1.3	1.3
102.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
105°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
145°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
150°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
160°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3
165°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3
167.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3
170°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
172.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
175°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
177.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2	2688.2
2.5°	2707.3	2700.9	2698.4	2666.6	2675.5	2656.5	2700.9	2688.2	2685.7	2703.5
5°	2713.7	2684.4	2702.2	2681.9	2687.0	2659.0	2694.6	2679.3	2680.6	2689.5
7.5°	2717.5	2700.9	2718.7	2683.2	2697.1	2687.0	2712.4	2697.1	2712.4	2720.0
10°	2755.6	2748.0	2735.3	2725.1	2735.3	2711.1	2742.9	2740.4	2749.2	2772.1
12.5°	2807.7	2798.8	2786.1	2768.3	2775.9	2767.0	2791.2	2793.7	2810.3	2821.7
15°	2885.2	2873.8	2867.5	2849.7	2852.2	2845.8	2859.8	2862.4	2895.4	2891.6
17.5°	2994.6	2981.8	2986.9	2970.4	2964.1	2948.8	2923.4	2914.5	2953.9	2965.3
20°	3114.0	3100.1	3106.4	3092.4	2974.2	2734.0	2895.4	3006.0	2922.1	2915.8
22.5°	3250.0	3234.8	3239.9	3218.3	3072.1	2622.1	2281.5	2253.5	2573.8	2703.5
25°	3400.0	3379.7	3377.1	3349.2	2868.7	2374.3	2336.2	2286.6	2052.7	1867.2
27.5°	3585.6	3555.1	3539.8	3117.8	2848.4	2467.1	2409.9	2233.2	1893.8	1905.3
30°	3786.4	3741.9	3455.9	3177.6	2997.1	2576.4	2500.1	1957.4	1959.9	1954.9
32.5°	4015.2	3916.1	3386.0	3360.6	3175.0	2693.3	2075.6	2052.7	2055.3	2062.9
35°	4315.2	3635.2	3621.2	3622.5	3392.4	2605.6	2198.9	2177.3	2179.8	2184.9
37.5°	4378.7	3918.6	3921.1	3891.9	3623.7	2380.6	2348.9	2347.6	2342.5	2337.4
40°	4429.6	4275.8	4238.9	4191.9	3359.3	2563.7	2553.5	2545.9	2549.7	2559.9
42.5°	4827.4	4711.7	4676.1	4620.2	3445.8	2840.8	2807.7	2798.8	2809.0	2803.9
45°	5356.1	5259.5	5189.6	4271.9	3806.8	3142.0	3115.3	3103.9	3107.7	3139.5
47.5°	5915.4	5858.2	5644.7	4615.1	4227.5	3497.9	3471.2	3453.4	3459.8	3452.1
50°	6524.2	6472.1	5225.2	5132.4	4692.7	3881.7	3842.3	3836.0	3838.5	3837.3
52.5°	7185.2	6095.9	5790.8	5694.2	5183.3	4283.4	4269.4	4235.1	4242.7	4235.1
55°	7960.5	6421.3	6413.6	6300.5	5734.9	4749.9	4733.3	4685.0	4381.3	4646.9
57.5°	8696.4	7042.8	7042.8	6933.5	6299.3	5213.8	5187.1	5151.5	3114.0	2511.6
60°	9502.3	7665.6	7647.8	7557.6	6843.3	5656.1	4597.3	4587.2	1881.1	1887.5
62.5°	10198.8	8221.1	8252.8	8168.9	7366.9	4235.1	2130.3	2087.0	185.6	286.0
65°	10979.2	8835.0	8873.1	8786.7	7933.8	4491.8	2312.0	2290.4	41.9	38.1
67.5°	11863.8	9447.6	9361.2	9265.8	8265.5	4625.3	2402.3	2383.2	11.4	7.6
68°	11871.5	9434.9	9323.0	9258.2	8233.8	4599.9	2394.6	2376.8	11.4	7.6
70°	11261.4	8959.5	8847.7	8864.2	7839.7	4399.1	2295.5	2262.4	11.4	7.6
72.5°	9879.8	7973.2	7847.4	7758.4	6952.6	3911.0	2057.8	1995.5	11.4	7.6
75°	8453.7	6756.8	6548.4	6352.6	5593.8	3200.5	1687.9	1618.0	11.4	7.6
77.5°	6662.8	5150.2	4854.1	4725.7	4203.3	2364.1	1254.5	1178.2	11.4	6.4
80°	3682.2	2955.2	2703.5	2624.7	2403.5	1389.2	719.4	673.6	10.2	6.4
82.5°	952.0	714.3	622.8	601.2	564.3	329.2	175.4	166.5	8.9	5.1
85°	136.0	100.4	110.6	130.9	125.8	85.2	61.0	52.1	7.6	3.8
87.5°	71.2	59.7	69.9	78.8	80.1	49.6	25.4	14.0	3.8	0.0
90°	11.4	11.4	12.7	14.0	14.0	6.4	5.1	0.0	0.0	0.0
92.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
100°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
105°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	1.3	2.5	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
115°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)